

Product: **Mixland ZDMC 75 GE**

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SDS No.: 100052-100 (Version 1.1)

Date 20.05.2016 (Cancel and replace : 08.02.2016)

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

1.1. Identification of the product

Identification of the mixture: Mixland ZDMC 75 GE

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
Tel. + 33 (0) 5 58 57 02 00
<http://www.mlpc-intl.com>
fds@mlpc-intl.com

1.4. Emergency telephone number

+44 (0) 1235 239 670 (Carechem24 – MLPC 29003) **Europe**
001866 928 0789 (Carechem24 – MLPC 29003) **Americas**
+65 3158 1074 (Carechem24 – MLPC 29003) **Asia-pacific region** (excluding China)
+86 400 6267911 **China mainland**

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

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

Inhalation: Acute toxicity, 2, H330
Acute toxicity, 4, H302
Serious eye damage, 1, H318
Skin sensitisation, 1, H317
Specific target organ toxicity - repeated exposure, 2, H373
Specific target organ toxicity - single exposure, 3, H335
Hazardous to the aquatic environment - acute hazard, 1, H400
Hazardous to the aquatic environment - chronic hazard, 1, H410

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:

ziram (ISO); zinc bis dimethyldithiocarbamate

Hazard pictograms:



Signal word:

Danger

Hazard statements:

H330 : Fatal if inhaled.
 H302 : Harmful if swallowed.
 H318 : Causes serious eye damage.
 H317 : May cause an allergic skin reaction.
 H373 : May cause damage to organs through prolonged or repeated exposure if swallowed.
 H335 : May cause respiratory irritation.
 H410 : Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:

P284 : Wear respiratory protection.
 P273 : Avoid release to the environment.

Response:

P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P333 + P313 : If skin irritation or rash occurs: Get medical advice/ attention.
 P403 + P233 : Store in a well-ventilated place. Keep container tightly closed.
 P312 : Call a POISON CENTER/doctor if you feel unwell.

Disposal:

P501 : Dispose of contents/ container to an approved incineration 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.

3. COMPOSITION/INFORMATION ON INGREDIENTS**3.2. Mixtures****Chemical nature of the mixture¹:****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
Ziram (01-2119492295-30) (N° ANNEX: 006-012-00-2)	205-288-3	137-30-4	< 75 %	M-Factor Acute = 100 M-Factor Chronic = 100M-Factor Acute = 10 M-Factor Chronic = 1

¹: See chapter 14 for Proper Shipping Name

²: See the text of the regulation for applicable exceptions or provisions : The transition time according to REACH Regulation, Article 23, is still not expired.

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

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 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:

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.

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.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:

Physical state (20°C): solid (20 °C)
Odour: pleasant
Olfactory threshold: No data available.
pH: No data available.
Melting point : approximately 250 °C Active ingredient
Boiling point/boiling range: No data available.
Flash point: No data available.
Evaporation rate: No data available.
Flammability (solid, gas):
Flammability: The product is not flammable. (Method A10: Flammability (solids))
Vapour pressure: 0,000002 Pa , at 20 °C (A4 Method (D. 92/69/ECC))
Vapour density: No data available.
Relative density: No data available.
Water solubility: 0,97 mg/l at 20 °C
Partition coefficient: n-octanol/water: ZIRAM : log Kow : 1,65 , at 20 °C (OECD Test Guideline 107)
Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity: No data available.
Explosive properties:
Impact sensitivity: Not impact sensitive.
Reported data

Explosivity: Active substance, Not explosive (A14 Method)
Oxidizing properties: No data available.

9.2. Other data:

Solubility in other solvents: Acetone 2,3 g/l
Surface tension: 73 mN/m at 20 °C Active ingredient (A5 Method)
pKA: None.

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

11. TOXICOLOGICAL INFORMATION

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

11.1. Information on toxicological effects:

Acute toxicity:

Inhalation: According to its composition : Fatal if inhaled.

ZIRAM :

• In animals : LC50/4 h/Rat: 0,13 mg/l (Method: OECD Test Guideline 403) (Dusts)

Ingestion: According to its composition : Toxic if swallowed.

ZIRAM :

• In animals : LD50/Rat: 267 - 381 mg/kg

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

ZIRAM :

• In animals : No mortality/Rabbit: 2.000 mg/kg (Method: OECD Test Guideline 402)

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

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

ZIRAM :

• In animals : No skin irritation (OECD Test Guideline 404, Rabbit)

Eye contact: From its composition, it must be considered as: Causes serious eye damage.

ZIRAM :

• In animals : Severe eye irritation (OECD Test Guideline 405, Rabbit)

Respiratory or skin sensitisation:

Inhalation: No data available.

Skin contact: From its composition, it must be considered as: May cause an allergic skin reaction.

ZIRAM :

• In animals : Weak sensitizing effects by skin contact. (Method : OECD Test Guideline 406 Guinea pig maximization 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

ZIRAM :

In vitro gene mutation study in bacteria: Active (Method: OECD Test Guideline 471)
In vitro gene mutations test on mammalian cells: Inactive (Method: OECD Test Guideline 476)
Chromosome aberration test in vitro: Inactive (Method: OECD Test Guideline 473)

In vivo

ZIRAM :

In vivo micronucleus test: Inactive (Method: OECD Test Guideline 474)
Chromosome aberration test in vivo: Inactive (Method: OECD Test Guideline 475)
Inactive (Method: OECD Test Guideline 483)

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

ZIRAM :

• In animals : Presence of: Tumors, Target organs: Blood (Method: OECD Test Guideline 453, Rat, By diet)
No Observed Adverse Effect Level (NOAEL): < 23,7 mg/kg bw/day

Absence of carcinogenic effects (Method: OECD Test Guideline 451, Mouse, By diet)
No Observed Adverse Effect Level (NOAEL): 82 mg/kg bw/day

Reproductive toxicity:**Fertility:**

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

ZIRAM :

• In animals : Two generations study.: Absence of toxic effects on fertility
NOAEL (Parental toxicity) : 10 mg/kg bw/day
NOAEL (Fertility) : > 25 mg/kg bw/day
(Method: OECD Test Guideline 416, Rat, By diet)

Foetal development:

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

ZIRAM :

• In animals (rat) : Absence of toxic effects for foetal development at non toxic maternal doses
NOAEL (Developmental Toxicity) : 4 mg/kg bw/day
NOAEL (Maternal Toxicity) : 4 mg/kg bw/day
(Method: OECD Test Guideline 414, By oral route)
• In animals (rabbit): Absence of toxic effects for foetal development at non toxic maternal doses
NOAEL (Developmental Toxicity) : 7,5 mg/kg bw/day
NOAEL (Maternal Toxicity) : 3 mg/kg bw/day
(Method: OECD Test Guideline 414, By oral route)

Specific target organ toxicity :**Single exposure :**

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Exposure routes : Inhalation
Target Organs : respiratory tract

Inhalation:

May cause respiratory irritation.

ZIRAM :

Irritating to respiratory system.

Repeated exposure:

The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Target Organs : Liver , Haematological system, spleen

ZIRAM :

• In animals : By oral route: Target organs: Liver, spleen, Haematological system, NOAEL= < 7,4 mg/kg (Method: OECD Test Guideline 408, Rat, 90 d)
By diet: Target organs: Liver, Haematological system, NOAEL= 4,07 mg/kg, LOAEL= 12,15 mg/kg (Method: OECD Test Guideline 409, Dog, 90 d)
By inhalation: Local irritation
NOAEL= 0,3 mg/l (Method: OECD Test Guideline 412, Rat, 28 d)
dermal route: Target organs: Haematological system, NOAEL= 100 mg/kg, LOAEL= 300 mg/kg (Method: OECD Test Guideline 410, Rabbit, 21 d)

Aspiration hazard:

Not applicable

12. ECOLOGICAL INFORMATION

Ecotoxicology Assessment:

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

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

12.1. Toxicity :**Fish:**

Very toxic to fish

ZIRAM :

LC50, 96 h (Lepomis macrochirus (Bluegill sunfish)) : 0,01 mg/l (Method: OECD Test Guideline 203)

DISTILLATES (PETROLEUM), SOLVENT-REFINED LIGHT PARAFFINIC :

96 h (Pimephales promelas (fathead minnow)) (Method: OECD Test Guideline 203) No effect up to the limit of solubility

Aquatic invertebrates: Very toxic to daphnia.

ZIRAM :

EC50, 48 h (Daphnia magna (Water flea)) : 0,048 mg/l (Method: OECD Test Guideline 202, Immobilization)

DISTILLATES (PETROLEUM), SOLVENT-REFINED LIGHT PARAFFINIC :

48 h (Daphnia magna (Water flea)) (Method: OECD Test Guideline 202, Immobilization) No effect up to the limit of solubility

Aquatic plants: Very toxic to algae.

ZIRAM :

EC50, 72 h (Pseudokirchneriella subcapitata (microalgae)) : 0,094 mg/l (Method: OECD Test Guideline 201, growth rate inhibition)

DISTILLATES (PETROLEUM), SOLVENT-REFINED LIGHT PARAFFINIC :

72 h (Pseudokirchneriella subcapitata (microalgae)) (Method: OECD Test Guideline 201, growth rate inhibition) No effect up to the limit of solubility

Microorganisms:

ZIRAM :

NOEC, 3 h (Activated sludge) : 0,32 mg/l (Method: OECD Test Guideline 209, Respiration inhibition of activated sludge)

Aquatic toxicity / Long term toxicity:**Fish:**

ZIRAM :

NOEC, 33 d (Pimephales promelas (fathead minnow)) : 0,1 mg/l (Method: OECD Test Guideline 210, Early-life Stage)

Aquatic invertebrates:

ZIRAM :

NOEC, 21 d (Daphnia magna (Water flea)) : 0,078 mg/l (Method: OECD Test Guideline 211, Growth inhibition/Reproduction inhibition)

DISTILLATES (PETROLEUM), SOLVENT-REFINED LIGHT PARAFFINIC :

EL10 (Daphnia magna (Water flea)) : 10 mg/l (Method: OECD Test Guideline 211, Reproduction inhibition) No effect up to the limit of solubility

Aquatic plants:

ZIRAM :

EC10, 72 d (Pseudokirchneriella subcapitata (microalgae)) : 0,066 mg/l (Method: OECD Test Guideline 201, growth rate inhibition)

DISTILLATES (PETROLEUM), SOLVENT-REFINED LIGHT PARAFFINIC :

72 d (Pseudokirchneriella subcapitata (microalgae)) (Method: OECD Test Guideline 201, growth rate inhibition) No effect up to the limit of solubility

Non aquatic toxicity / Acute toxicity :**Toxicity to soil dwelling organisms:**

ZIRAM :

NOEC, 56 d (Eisenia fetida (earthworms)) : 4 mg/kg (Soil dw) (Method: OECD Test Guideline 222, reproduction)

12.2. Persistence and degradability :**Biodegradation (In water): Not readily biodegradable.**

ZIRAM :

Not readily biodegradable.
7,7 % (Method: OECD Test Guideline 301B)

DISTILLATES (PETROLEUM), SOLVENT-REFINED LIGHT PARAFFINIC :

Not readily biodegradable.
(Method: OECD Test Guideline 301 F)

12.3. Bioaccumulative potential :

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

ZIRAM : Partition coefficient: n-octanol/water: log Kow : 1,65 , at 20 °C (Method: OECD Test Guideline 107)

12.4. Mobility in soil - Distribution among environmental compartments:

Surface tension: 73 mN/m 20 °C Active ingredient, (Method: A5 Method)

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. Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment:

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

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

14. TRANSPORT INFORMATION

Regulation	14.1. UN number	14.2. UN proper shipping name	14.3. Class*	Label	14.4. PG*	14.5. Environmental hazards	14.6. Special precautions for user
ADR	2811	TOXIC SOLID, ORGANIC, N.O.S.(ZINC DIMETHYL DITHIOCARBAMATE)	6.1	6.1	II	yes	
ADN	2811	TOXIC SOLID, ORGANIC, N.O.S. (ZINC DIMETHYL DITHIOCARBAMATE)	6.1	6.1	II	yes	
RID	2811	TOXIC SOLID, ORGANIC, N.O.S. (ZINC DIMETHYL DITHIOCARBAMATE)	6.1	6.1	II	yes	
IATA Cargo	2811	Toxic solid, organic, n.o.s. (ZINC DIMETHYL DITHIOCARBAMATE)	6.1	6.1	II	yes	
IATA Passenger	2811	Toxic solid, organic, n.o.s. (ZINC DIMETHYL DITHIOCARBAMATE)	6.1	6.1	II	yes	
IMDG	2811	TOXIC SOLID, ORGANIC, N.O.S. (ZINC DIMETHYL DITHIOCARBAMATE)	6.1	6.1	II	Marine pollutant	EmS Number: F-A, S-A Mark: MP

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

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

15. REGULATORY INFORMATION

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

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

Listed in:

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC): Distillates (petroleum), hydrotreated light paraffinic; Baseoil -- unspecified
EU. REACH, Annex XVII, Appendix 2, Entry 28 - Carcinogens: Category 1B (Table 3.1)/Category 2 (Table 3.2). (Regulation 1907/2006/EC): Distillates (petroleum), hydrotreated light paraffinic; Baseoil -- unspecified

15.2. Chemical safety assessment: None.

INVENTORIES:

EINECS: Conforms to
TSCA: Conforms to
DSL: All components of this product are on the Canadian DSL
IECSC (CN): Conforms to
KECI (KR): Conforms to
TSCA 12B:

16. OTHER INFORMATION

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

H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Update:

Safety datasheet sections which have been updated:	Type:
3 REACH Registration Number	Additions

Thesaurus:

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

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

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